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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,687	07/16/2004	Renatus Josephus Van Der Vleuten	NL020028	2755
24738	7590	03/27/2006		
PHILIPS ELECTRONICS NORTH AMERICA CORPORATION INTELLECTUAL PROPERTY & STANDARDS 1109 MCKAY DRIVE, M/S-41SJ SAN JOSE, CA 95131				
			EXAMINER MOON, SEOKYUN	
			ART UNIT 2629	PAPER NUMBER

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/501,687	VAN DER VLEUTEN ET AL.	
	Examiner	Art Unit	
	Seokyun Moon	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>07/16/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).

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- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

3. **Claim 1** is objected to because of the following informalities: "... he area of said group of pixels, ...".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1, 2, 4, 5, 10, and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lauer et al. (U.S. Pat. No. 5,523,769, herein after referred to as "Lauer") in view of Tamanoi (U.S. Pat. No. 5,565,885, herein after referred to as "Tamanoi").

As to **claim 1**, Lauer [*Fig. 4*] teaches a display device ("*high resolution modular large screen display*"), which is provided with groups of pixels ("*module 50*") [*Col. 3 Lines 57-58 and 62-63*], drive means (a combination of "*processor 62*" and "*memory*

64") for driving pixels dependent on data to be displayed and data processing means ("*display driver 66*") [Col. 8 Lines 54-56].

Lauer does not teach expressly that at least one semi-conductor device associated with each group of pixels is provided at the area of said group of pixels and is provided with the drive means and the data processing means.

However, Tamanoi [Fig. 3] teaches that at least one semi-conductor device ("*IC chips*") in which driving circuitries for a display are implemented, are associated with each group of pixels and provided at the area of said group of pixels ("*formed around the panel 16*" on which display pixels are formed) [Col. 3 Lines 20-36].

It would have been obvious to one of ordinary skill in the art at the time of the invention to use IC chips to build Lauer's components required to drive Lauer's display as taught by Tamanoi to provide a method of designing a compact, thin, and light liquid crystal display device of low cost while the method does not require a printed circuit board [Col. 2 Lines 1-4].

Lauer modified by Tamanoi teaches a display device comprising a substrate ("*insulating resin films*") [Tamanoi: Col. 3 Lines 25-28].

As to **claim 2**, Lauer [Lauer: Fig. 4] modified by Tamanoi [Tamanoi: Fig. 3] as discussed with respect to the rejection of claim 1 teaches the semiconductor devices (Tamanoi: "*IC chips*" which are semi-conductors) being provided with means (Lauer: "*communication interface 60*") for recognizing the location of the group of pixels [Lauer: Col. 8 Lines 41-47].

As to **claim 4**, Lauer modified by Tamanoi inherently teaches the address rate of the semi-conductor devices being variable since the data signals carrying images to be displayed is transmitted from the network interface of a central module to each module's data processing mean implemented on IC chips (which are semi-conductors) only when the corresponding modules are to be involved in creating the particular segment of the image to be displayed, thus the data processing mean of each module is addressed irregularly depending on the image to be displayed on a display device.

As to **claim 5**, Lauer [Lauer: Fig. 4] modified by Tamanoi teaches the drive means (Lauer: a combination of "processor 62" and "memory 64") for different part of the displays having separate control means ("processor 62").

Lauer [Lauer: Fig. 4] modified by Tamanoi inherently teaches the separate control means to vary the addressing rate of the associated semi-conductors ("IC chips" functioning Lauer's "display driver 66") since each module is addressed irregularly depending on the image to be display on a display device, thus the data signals representing images to be displayed is transmitted to Lauer's display driver irregularly. Since each portion assigned to a group of pixels of Lauer's display driver is activated arbitrary depending on the images to be displayed by Lauer's drive mean, it is required for the IC chips functioning Lauer's display driver to receive activation / addressing control from Lauer's drive mean.

As to **claims 10 and 11**, Lauer [Lauer: Fig. 4] as modified by Tamanoi teaches at least a part of the group of the semi-conductor devices (the IC chips functioning Lauer's "communication interface 60") receiving the most significant part of the data to be

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displayed (Lauer, “the modules which are actively involved in creating the particular segment of the image to be displayed”) and at least a part of the group of the semiconductor devices receiving refinement data of the data to be displayed (the modules which are not actively but still involved in creating the particular segment of the image to be displayed) [Col. 8 Lines 61-65].

6. **Claims 3, 6, 7, 8, 9, and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lauer and Tamanoi in view of Anwyl et al. (U.S. Pat. No. 5,576,738, herein after referred to as “Anwyl”).

As to **claims 6 and 7**, Lauer [Fig. 4] teaches the driving means (a combination of “processor 62” and “memory 64”) comprising a frame memory (“memory 64”) [Col. 8 Lines 54-56].

Lauer does not teach the driving means comprising means to detect changes between the contents of subsequent frames.

However, Anwyl [Fig. 3] teaches a driving mean (a combination of “activity detector 403”, “microprocessor 402”, “timer 405”, and “memory 404”) for a display comprising a mean (“activity detector 403”) to detect changes between the contents of subsequent frames [Col. 1 Lines 37-43].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the driving structure of Lauer’s display implemented in one of the plural displays, as taught by Anwyl to allow Lauer’s display to detect changes between the contents of subsequent frames, thus to provide power management function in the display device [Col. 1 Lines 45-59 and Col. 4 Line 58- Col. 5 Line 17].

As to **claim 8**, Lauer as modified by Tamanoi and Anwyl teaches that encoded data to be displayed is transported [*Anwyl: Col. 7 Lines 24-28*] to at least a group of the semiconductor devices (the one of modified Lauer's IC chips functioning Anwyl's "microprocessor 402") after detecting a certain amount of change between the contents of subsequent frames or subsequent sub-frames [*Anwyl: Col. 4 Line 58 – Col. 5 Line 17*].

As to **claim 9**, Lauer modified by Tamanoi and Anwyl teaches the encoded data to be displayed being transported [*Anwyl: Col. 7 Lines 24-28*] to at least a part of the group of the semiconductor devices (modified Lauer's IC chip functioning Anwyl's drive mean) at full frame rate ("*... reads all pixels approximately 60 to 72 times...*") [*Col. 7 Lines 39-40*].

As to **claim 12**, Lauer modified by Anwyl [*Anwyl: Figs. 3 and 6*] teaches the driving means (*Anwyl: a combination of "activity detector 403", "microprocessor 402", "timer 405", and "memory 404"*) for the display comprising an encoding function ("ADC 522") [*Col. 7 Lines 23-27*].

As to **claim 3**, Lauer modified by Anwyl [*Anwyl: Figs. 3 and 6*] inherently teaches the data processing means (*Anwyl: "display circuitry 401"*) having a decoding function since the encoded data outputted from Anwyl's driving mean (*Anwyl: a combination of "activity detector 403", "microprocessor 402", "timer 405", and "memory 404"*) is to be decoded before the data signals representing images to be displayed are be applied to pixels.

7. **Claims 13 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lauer and Tamanoi as applied to claim 2 above, and further in view of Takeda (U.S. Pat. No. 4,903,013, herein after referred to as "Takeda").

Lauer as modified by Tamanoi does not specify expressly the means for recognizing the location to have a read-only memory.

However, Takeda [*Fig. 1*] teaches a display system having a plurality of display areas having RAM (which is a programmable memory) as an addressing mean [*Abstract*].

It would have been obvious to one of ordinary skill in the art at the time of the invention to specify the modified Lauer's means for recognizing the location to comprise RAM since RAM is a known storage device providing large memory while requires less space to build on electronic circuits.

8. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lauer and Tamanoi as applied to claim 1 above, and further in view of Nakano et al. (U.S. Pat. No. 6,529,181 B2, herein after referred to as "Nakano").

Lauer modified by Tamanoi does not disclose expressly the drive means to have a bus structure.

However, Nakano [*Fig. 15A*] teaches a bus structure used in driving means for connection to transmit data signals representing the images to be displayed [*Col. 3 Lines 3-5*].

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a bus structure in Lauer's drive means for the connection

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transmitting image signals to reduce the number of wirings required for data / image communication, thus to simplify the internal circuit structure of the drive means.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 16, 2006

S.M.

Division 2629

AMR A. AWAD
PRIMARY EXAMINER

